

Claims

- 5 1. A turbocharger comprising a center housing (1), a variable nozzle device (11, 23, 25, 27, 29, 31), and an exhaust housing (47) being mechanically and/or thermally decoupled from the variable nozzle device, wherein the variable nozzle device (11, 23, 25, 27, 29, 31) comprises a circumferential arrangement of vanes (27) interposed between a nozzle ring (23) and an outer ring (15) integrally formed with a peripheral ring (13) fitted on said nozzle ring and coupled to 10 said center housing (1).
- 15 2. A turbocharger according to claim 1, characterized in that the peripheral ring (13) is radially and axially spaced from the exhaust housing, so that any contact between the exhaust housing and the peripheral ring (13) is avoided.
- 20 3. A turbocharger according to claim 1 or 2, wherein said exhaust housing (47) is mounted directly to a center housing (1) carrying a shaft (3) with a turbine wheel (5), so that both 25 housings (1, 47) define an inner space in which said variable nozzle device (11, 23, 25, 27, 29, 31) and said turbine wheel (5) are located.
4. A turbocharger according to claim 3, wherein said exhaust housing (47) comprises a gas inlet portion (53) attached to said center housing (1) and a gas outlet portion (63) encompassing with an axially extending clearance a gas outlet portion (65) of the variable nozzle device.
5. A turbocharger according to claim 4, wherein the gas inlet portion (53) of the exhaust housing (47) comprises a flange member (51) axially abutted via a sealing element (55) to the center housing (1) and mounted thereto by a fastening member (49).
- 30 6. A turbocharger according to claim 4 or 5, characterized by a sealing system (65, 67) for avoiding a gas leakage between the exhaust housing (47) and the variable nozzle device (11, 23, 25, 27, 29, 31).

7. A turbocharger according to claim 6, wherein the sealing system (65, 67) comprises a circumferential recess formed in said gas outlet portion (65) of the variable nozzle device and containing a piston ring (67), characterized by at least one further circumferential recess (69) formed in said gas outlet portion (63) of said exhaust housing and opened to said axially extending clearance between the gas inlet side of said exhaust housing and the piston ring (67).

8. A turbocharger according to one of claims 1 to 7, wherein said vanes (27) are pivotally supported on the nozzle ring (23), said nozzle ring being axially urged by the peripheral ring (13) against an annular disc member (45) supported on said center housing (1).

9. A turbocharger according to one of claims 1 to 8, wherein said gas inlet portion (53, 51) of the exhaust housing (47) encompasses with a further axially extending clearance (57) the peripheral ring (13) of said variable nozzle device.

15 10. A turbocharger according to one of claims 1 to 8, wherein said peripheral ring (13) is abutted against the same sealing element (55) via which the flange member (51) of the exhaust housing (47) is secured on the center housing (1).